# Deployment Architecture:
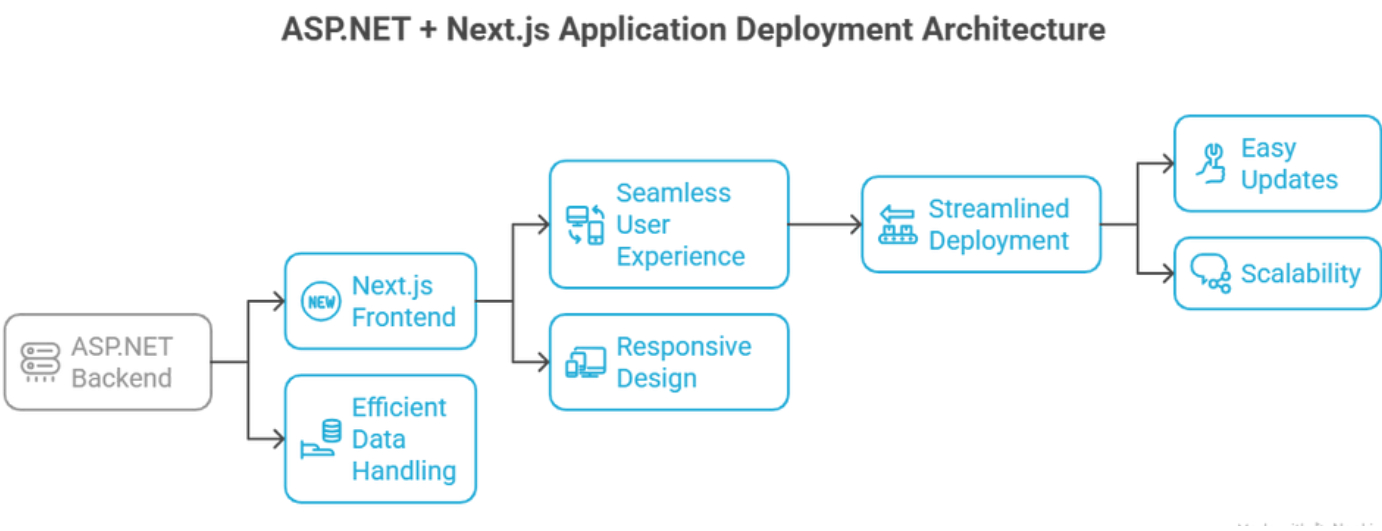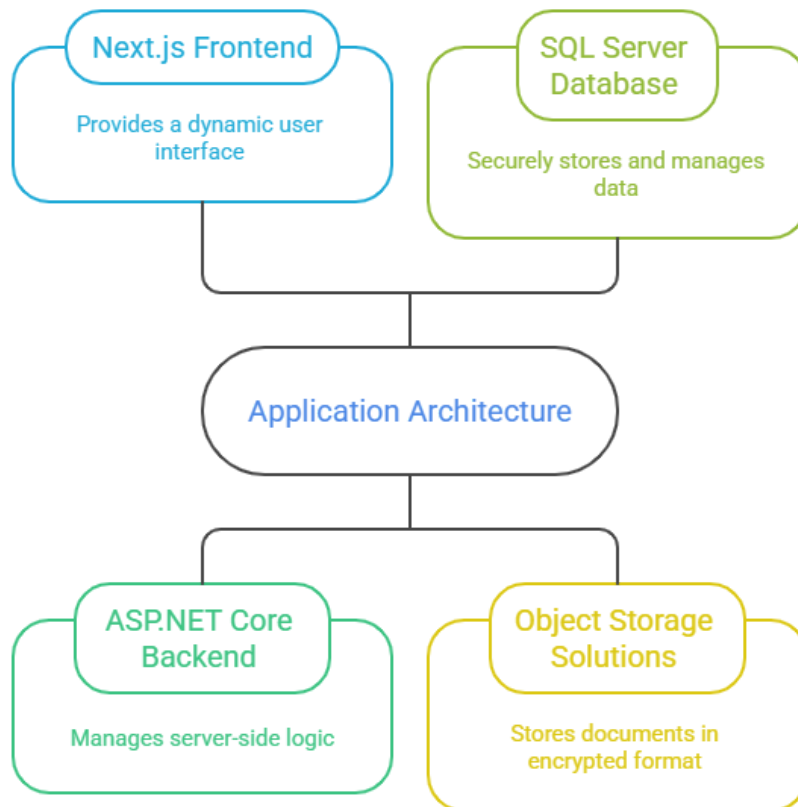
Here's a concise summary of the ASP.NET + Next.js application deployment architecture shown in your diagram:



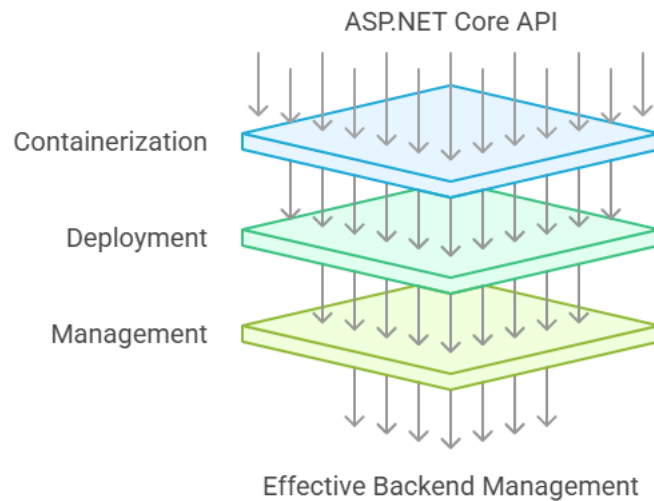**ASP.NET + Next.js Application Deployment Architecture**

The architecture integrates a Next.js frontend with an ASP.NET Core backend, supported by a SQL Server database and object storage. Key components include:
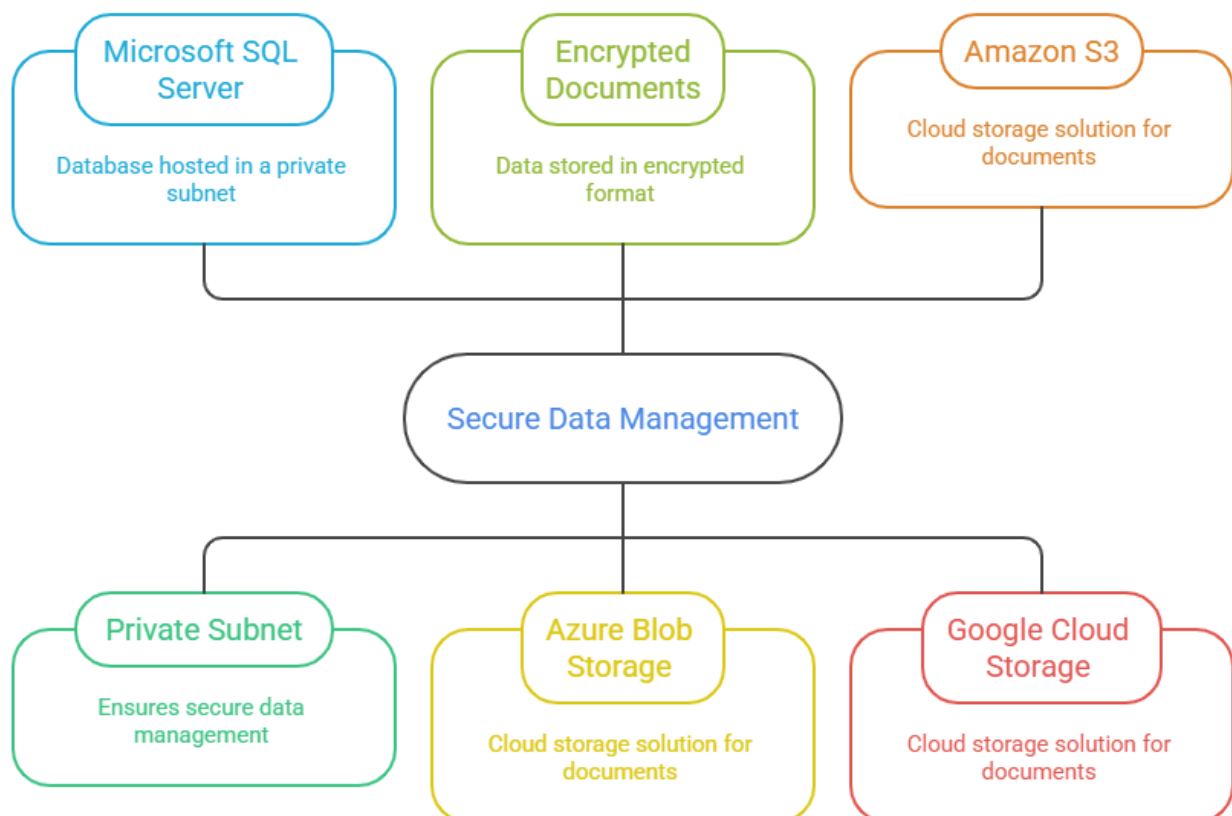
# Integrated Application Architecture



Frontend: Next.js application hosted on a CDN-backed platform for fast content delivery. Backend: ASP.NET Core API deployed using containerization and managed through an application gateway.

## Backend Deployment Process

ASP.NET Core API

Containerization

Deployment

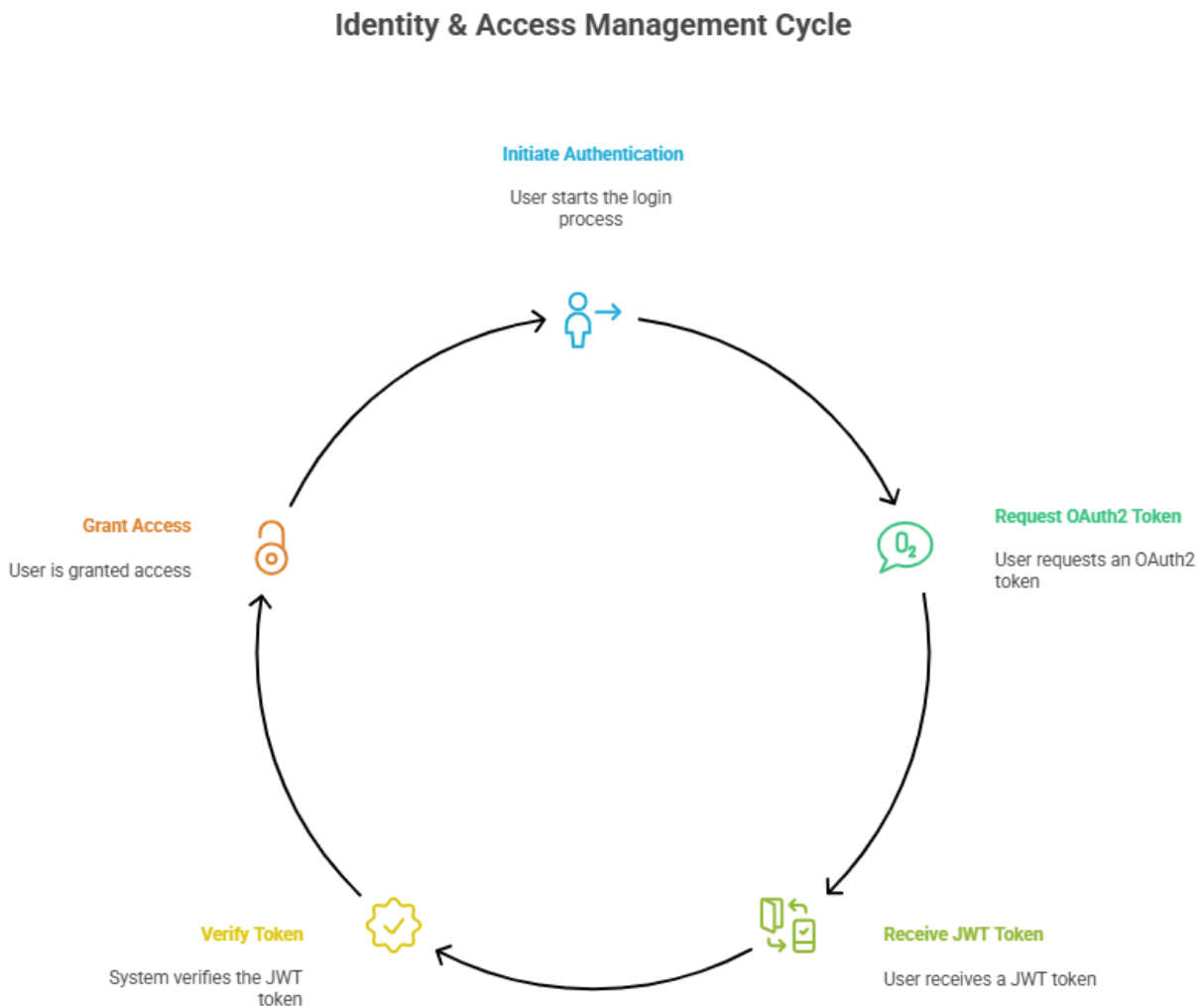Management

Effective Backend Management

**Database: Microsoft SQL Server** is hosted in a **private subnet** to ensure secure data management, with **documents stored in encrypted format** using popular object storage solutions such as **Azure Blob Storage, Amazon S3, or Google Cloud Storage**, providing enhanced confidentiality and regulatory compliance.

## Secure Data Management Overview

**Microsoft SQL Server**

Database hosted in a private subnet

**Encrypted Documents**

Data stored in encrypted format

**Amazon S3**

Cloud storage solution for documents

**Secure Data Management**

**Private Subnet**

Ensures secure data management

**Azure Blob Storage**

Cloud storage solution for documents

**Google Cloud Storage**

Cloud storage solution for documents

Identity & Access Management: OAuth2/JWT tokens and identity providers for authentication and authorization.

**Identity & Access Management Cycle**



**Initiate Authentication**
User starts the login process

**Request OAuth2 Token**
User requests an OAuth2 token

**Receive JWT Token**
User receives a JWT token

**Verify Token**
System verifies the JWT token

**Grant Access**
User is granted access

I/CD Pipelines: Automated deployment via GitHub Actions, Azure DevOps, or GitLab CI.

Observability: Centralized logging, distributed tracing, and health probes for monitoring.

Auto-Scaling: Horizontal pod scaling and app service scaling rules for handling traffic spikes.

Overall, the architecture emphasizes scalability, security, observability, and automated deployments while integrating frontend, backend, storage, and identity management in a cloud-ready environment.

# Hosting Configuration

Please find below the details of the services we are currently using along with their associated costs:

## 1. Configuration:

Fully managed **WIN SSD Cloud 2x server** at **multimedia.interactivedns.com** with **2 CPU Cores, 8GB RAM, 160GB SSD storage, 3TB monthly bandwidth, 1000 Mbps port speed**, and **1 IPv4 + 1 IPv6 address**. Running **Windows Server 2019 Standard Edition 64-bit** with **Plesk Web Pro Edition**, **SQL Server 2019 Express Edition**, **500GB cloud storage**, and **daily or weekly snapshot backups**.



Server Configuration Details

**Server Specifications**
2 CPU Cores, 8GB RAM, 160GB SSD storage, 3TB bandwidth, 1000 Mbps port speed, and IPv4/IPv6 addresses.

**Operating System**
Windows Server 2019 Standard Edition 64-bit.

**Software**
Plesk Web Pro Edition, SQL Server 2019 Express Edition.

**Storage**
500GB cloud storage with daily or weekly snapshot backups.

Cost Details:
**Sub Total:** ₹41,100.00
**Taxes (CGST + SGST 9% each):** ₹7,398.00
**Total:** ₹48,498.00

These services are billed quarterly and are essential for hosting, backup, licensing, and management of our server multimedia.interactivedns.com

## Quarterly Service Costs

| Service | SSD Cloud 4x | Snapshot Backup | Microsoft Windows Standard | Plesk Web Pro License | Backup Cloud Storage |
|---------|--------------|-----------------|----------------------------|-----------------------|----------------------|
| Cost | ₹19,200.00 | ₹4,800.00 | ₹8,100.00 | ₹6,750.00 | ₹2,250.00 |